

Nico D'Cotta

Backend Software Engineer

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EXPERIENCE

11/23 – today

Backend Software Engineer III, at Monzo Bank

SRE-heavy security-focused role with very wide scope.

Owner of secret-management, public-key infrastructure, and preventive and detective security controls (eg. around **intrusion, exfiltration, DDoS**, etc).

Maintainer of critical zero-downtime infrastructure such as **Kubernetes, cloud networking**, and **sensitive key material** management.

06/20 – 11/23

part-time,
then Engineer,
then Senior Engineer

Senior Backend Software Engineer, at Blockchain.com

Owned several **JVM** (mainly **Kotlin**) real-time financial services critical for business operation and central to to user experience and transaction auditing; like ledger-keeping/accounting and indicative pricing.

Designed and scaled up **stateful distributed** systems with an event-driven architecture.

Reviewed systems' architecture designs and software development methods to cultivate **sustainable engineering practices** and achieve **operational excellence** within the wider company.

06/19 –

10/19
intern

Software Engineer, at Emit, Inc.

Four-person startup with its own smartwatch aiming to provide time-analytics to institutional customers.

Provided real-time insights on customer data by developing data processing pipelines and libraries in **Kotlin** and **Python** on top of serverless tech on **AWS (Lambda, DynamoDB, ElasticSearch)**.

EDUCATION

2018 – 2022

MEng Computer Science – First Class Honours, at Imperial College London

Focus on Software Engineering, Distributed Systems, Network and Computer Security, Systems and Data Scalability, Logic-based AI, Type Systems for Programming Languages, Simulation & Modelling.

Additional Business School modules include Project Management, Finance & Financial Markets, and Business Strategy.

2015-2018

French Baccalaureate (S-SI) – Highest Honours, at French Lycée of Madrid

High-school diploma with Engineering Sciences with Further Maths specialisations.

PROJECTS

see my full portfolio at nico.dcotta.com

Nomad, NixOS,
Golang

Self-hosted infrastructure

nico.dcotta.com

A HA self-hosted cluster with all the features you can expect from an enterprise-grade platform, including container orchestration, service discovery, a service mesh, a distributed filesystem, etc.

AWS (Lambda,
DynamoDB, EC2),
Kotlin, VueJS

DJStreamr, collaborative streaming service for DJs

djstreamr.com

Music synchronisation protocol implemented as a webapp with an event-driven platform architecture which leverages serverless technology.

Elixir, Paxos

Multi-Paxos implementation

cottand/multi-paxos

Implementation of a variation of the Paxos consensus algorithm (comparable to Raft), as specified in the paper *Paxos Made Moderately Complex*.

Kotlin, JVM
bytecode, ARM11
assembly

WACC, multiplatform compiler

cottand/WACC

Multiplatform compiler for WACC (a toy language) to JVM bytecode and ARM11 64-byte assembly that supports basic constructs like stack-allocated primitives, and heap-allocated arrays and pairs.

TECHNOLOGIES

Proficient in JVM (Kotlin, Java), Gradle, Nix + NixOS

Experience with Go, Python, C, Haskell, Typescript, Elixir

Nomad, Kubernetes, Consul, Vault, Terraform

AWS (IAM, EC2, S3, WAF + Shield, DynamoDB, etc.)

gRPC + protobufs, Kafka, Akka, PostgreSQL, Redis, Cassandra, APM, Docker, React

Object-oriented, Functional, Actor-oriented, and Procedural programming.

HOBBIES

I enjoy gardening as well as kitesurfing and rock climbing

LANGUAGES

English - bilingual (C2 certification)

Spanish - native

French - bilingual

Portuguese - advanced level

SKILLS + FEEDBACK

"Pleasant to work with"

"Aware of product quality"

"Knows which battles to pick"

I can google well!